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SAI RAM INSTITUTE OF TECHNOLOGY

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CONTINUOUS ASSESSMENT TEST - II

Question Paper Code	24NU12F051

Course Code - Name : 24ESCS101 – Problem Solving and Programming in C

Degree & Program : B.E & B. Tech (For all Branches)

Date of Exam : 29.11.2024 Year / Semester : I / I

Duration : 1 ½ Hours Max. Marks : 50

Answer ALL Questions

	PART – A (10× 1 = 10 Marks)	K-Level	CO
1	What is the correct syntax for declaring an array of 10 characters? a) char[10] arr; b) char arr[10]; c) char arr(10); d) array char arr[10];	K1	CO3
2	Given the code below, what does it do? char str[] = "Hello"; str[1] = 'a'; printf("%s", str); a) Hello b) Hallo c) Halla d) Hella	K2	CO3
3	What is the syntax for declaring an array of 10 floats? a) float arr [10]; b) arr float [10]; c) float [10] arr; d) float arr (10);	K1	CO3

4	What will be the output of the following code?
	int arr[] = {2, 4, 6, 8};
	arr[2] += arr[0];
	printf("%d", arr[2]);
	a) 8 b) 6 c) 10 d) 12
		K2	CO3

5	Which statement correctly describes the purpose of the null character '\0' in strings? a) It indicates the start of the string. b) It represents the length of the string. c) It marks the end of the string for string manipulation functions. d) It has no purpose in strings.	K2	CO3

6	What is the maximum depth of recursion allowed in C? a) It depends on the compiler b) 100 levels c) 1000 levels d) There is no predefined limit	K1	CO4
7	Can we use a function as a parameter of another function? [Eg: void wow(int func())] a) Yes, and we can use the function value conveniently b) Yes, but we call the function again to get the value, not as convenient as in using variable c) No, C does not support it. d) This case is compiler dependent	K1	CO4
8	Consider the following iterative implementation to find the factorial of a number: **int main()** **{** **int n = 6, i;** **int fact = 1;** **for(i=1;i<=n;i++)** **_____;** **printf("%d",fact);** **return 0;** **}** Which of the following lines should be inserted to complete the above code? a) i = i + fact b) fact = fact + 1 c) fact = fact * 1 d) i = i * fact	K1	CO4
9	Which of the following function call statements is valid when calling a function with no arguments and no return value? a) result = myFunction(); b) myFunction(); c) myFunction; d) myFunction(5);	K1	CO4
10	Choose correct statement about Functions in C Language. a) A Function is a group of c statements which can be reused any number of times. b) Every Function has a return type. c) Every Function may or may not return a value. d) All of the mentioned	K1	CO4

	PART – B (10 × 2 = 20 Marks)	K-Level	CO
11	What are the main elements of an array declaration?	K2	CO3
12	Write a C program to display the array elements in a two dimensional array?	K2	CO3
13	List the difference Between Linear search and binary search.	K2	CO3
14	Mention the various String Manipulation Functions in C	K2	CO3
15	How to declare and initialize a 1-D, 2-D array with an example.	K1	CO3
16	What is the function in C? Write its syntax	K1	CO4
17	Differentiate call by value and call by reference in detail.	K2	CO4

18	What is meant by Recursive function?	K1	CO4
19	Point out the meaning of user-defined function.	K2	CO4
20	Differentiate between formal parameters and actual Parameters.	K2	CO4

PART – C (2 × 10 = 20 Marks)

			Mark Split up	K-Level	CO
21.	a)	What is an array? Explain how to declare and initialize a one dimensional and two dimensional arrays with an example program.	10	K2	CO3
		(Or)			
	b) i	Write a program to find the length of a given string without library function.	5	K2	CO3
	ii	Write a program to copy one string into another without a library function.	5	K2	CO3
22.	a)	Explain different types of function prototypes based on parameters and return types with suitable examples for each.	10	K3	CO4
		(Or)			
	b)	Develop a C program for Binary Search using Recursive Functions	10	K3	CO4

Course Outcomes

CO1	Understand the concepts of algorithms for solving a problem.(K2)
CO2	Illustrate the various constructs in C to develop simple applications.(K3)
CO3	Understand the concepts of Array & Strings.(K2)
CO4	Demonstrate the usage of Functions and Pointers.(K3)
CO5	Explain the Structure and union concepts.(K2)
CO6	Describe the file manipulation and its organisation.(K2)

Distribution of COs (Percentage wise)

CO No.	CO1	CO2	CO3	CO4	CO5	CO6
%	----	----	50	50	----	----